

Customer No.: 31561
Docket No.: 12092-US-PA
Application No.: 10/709,037

In The Claims:

Claims 1-10 (canceled)

Claim 11. (currently amended) A process of forming a color filter, suitable for a multi-domain vertical alignment (MVA) liquid crystal display panel, the process comprising:

providing a substrate comprising a display area and a non-display area;

forming a black matrix over the substrate, wherein the black matrix defines the display area into a plurality of first sub-pixel areas, a plurality of second sub-pixel areas and a plurality of third sub-pixel areas, and the black matrix covers the non-display area, which forms an edge of the display area;

forming a first color filter unit in each of the first sub-pixel areas;

forming a second color filter unit in each of the second sub-pixel areas;

forming a third color filter unit in each of the third sub-pixel areas;

forming a plurality of alignment bumps over the black matrix, the first color filter unit, the second color filter unit and the third color filter unit; and

simultaneously forming a first light shielding layer over the black matrix during the formation of the alignment bumps.

Claim 12. (original) The process of claim 11, further comprising:

forming a second light shielding layer over the black matrix as the first color filter unit is formed, wherein the first light shielding layer covers the second light shielding layer.

Claim 13. (original) The process of claim 12, further comprising:

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forming a third light shielding layer over the second light shielding layer as the second color filter unit is formed, wherein the first light shielding layer covers the third light shielding layer.

Claim 14. (original) The manufacturing method of claim 13, further comprising:

forming a fourth light shielding layer over the third light shielding layer as the third color filter unit is formed, wherein the first light shielding layer covers the fourth light shielding layer.

Claim 15 (new) A liquid crystal display panel comprising:

a thin film transistor array substrate;

a color filter, comprising:

a substrate, comprising a display area and a non-display area;

a black matrix, disposed on the substrate, wherein the black matrix defines the display area into a plurality of sub-pixel areas, and the black matrix covers the non-display area and forms an edge of the display area;

a plurality of color filter units, disposed in the sub-pixel areas;

a light shielding layer, disposed over the black matrix;

a glue disposed between the thin film transistor array substrate and the black matrix to form a sealed space therebetween; and

a liquid crystal layer disposed in the space.

Claim 16. (new) The liquid crystal display panel of claim 15, wherein the light shielding layer comprises a red photoresist layer, a green photoresist layer and a blue photoresist layer.

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Claim 17. (new) The liquid crystal display panel of claim 15, further comprising
a plurality of alignment bumps, disposed over the color filter units and the black matrix
when the color filter is provided for a multi-domain vertical alignment (MVA) liquid crystal
display panel.

Claim 18. (new) The liquid crystal display panel of claim 15, wherein the light shielding
layer and the alignment bump are comprised of similar material.

Claim 19. (new) The liquid crystal display panel of claim 15, wherein the black matrix
comprises a black resin.

Claim 20. (new) The liquid crystal display panel of claim 15, wherein the color filter units
comprise a plurality of red filter units, a plurality of green filter units and a plurality of blue filter
units.

Claim 21. (new) A process of forming a liquid crystal display panel, comprising:
providing a substrate having a display area and a non-display area;
forming a black matrix over the substrate, wherein the black matrix defines the display
area into a plurality of first sub-pixel areas, a plurality of second sub-pixel areas and a plurality of
third sub-pixel areas, and the black matrix covers the non-display area, which forms an edge of
the display area;

simultaneously forming a first color filter unit in each of the first sub-pixel areas, and
forming a first light shielding layer over the black matrix ;

forming a second color filter unit in each of the second sub-pixel areas;

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forming a third color filter unit in each of the third sub-pixel areas;
providing a thin film transistor array substrate;
disposing a glue between the thin film transistor array substrate and the black matrix to
form a sealed space therebetween; and
injecting liquid crystal into the space to form a liquid crystal layer therein.

Claim 22. (new) The process of claim 21, further comprising:

forming a second light shielding layer over the first light shielding layer as the second
color filter unit is formed.

Claim 23. (new) The process of claim 21, further comprising:

forming a third light shielding layer over the second light shielding layer as the third
color filter unit is formed.

Claim 24. (new) The process of claim 21, further comprising:

forming a plurality of alignment bumps over the black matrix, the first color filter unit,
the second color filter unit and the third color filter unit after the third color filter unit is formed.